REMARKS

By the foregoing Amendment, Claims 1, 14, 23 and 36 are amended. Entry of the Amendment, and favorable consideration thereof is earnestly requested.

The Examiner has rejected all claims under 35 U.S.C. §102(b) as being anticipated by any one of the following: International Application Publication No. WO 03/071150A1 ("Severinsson et al."), U.S. Patent No. 6,471,015 ("Ralea et al."), U.S. Patent No. 6,318,513 ("Dietrich et al."), U.S. Patent No. 6,270,172 ("Shirai et al."), U.S. Patent No. 6,279,694 ("Boehm et al.") or U.S. Patent No. 6,752,247 ("Hartsock"). Applicant respectfully asks the Examiner to reconsider these rejections in view of the above Amendments and the below Remarks.

The present invention is directed to a system for controlling application of an electronically controlled brake which obviates many of the problems associated with prior art brake control systems which rely on undesirable types of sensor feedback in determining when to, and to what extent to, cause actuation of the brake actuator. To this end, all claims as amended require, among other elements, (i) a position sensor which produces a current position signal indicative of a current position a moveable brake component, (ii) a position indicative command indicative of a commanded position of the moveable brake component,

and (iii) a brake controller which causes actuation of a brake actuator based at least in part upon a comparison of the position indicative command with the current position signal. Thus, as suggested by the Examiner, the claims have been amended to highlight the fact that the claims do require more than a brake with a position sensor and an actuator responding to the signal from the sensor. Rather, all claims as amended require that the sensor signal be compared with a position indicative command and that the brake actuator be controlled based at least in part upon this comparison.

Applicant respectfully submits that none of the prior art cited by the Examiner, either alone or in combination, discloses, teaches or suggests such an arrangement.

Severinsson discloses a system which does not even include position sensors. Rather, in Severinsson control of the brake actuators is achieved through controlling brake forces, and the only disclosed sensors are force sensing means. (See page 3, lines 20-30; page 8, line 34 - page 9, line 27). As such, there is no disclosed, taught or suggested current position signal, no disclosed, taught or suggested position indicative command, and no disclosed, taught or suggested actuation based at least in part upon a comparison of the two.

Ralea et al. discloses a lining wear measurement system which is operative to compensate for brake lining wear. In order to achieve this, Ralea et al. does employ position sensors. However, the position sensors are used to compensate for wear and to adjust running clearance. There is no disclosure in Ralea et al. of a position indicative command, and no disclosure of actuation to a degree based at least in part upon a comparison of the current position signal with a position indicative command. Rather, the current position signal is used in conjunction with force sensors (in order to determine when 10% of maximum braking force has been applied) so as to determine the proper running clearance (i.e., the position of one or more brake rams when 10% of maximum braking force is applied). Thus, in Ralea, actual position is used in conjunction with force for wear compensation. There is no disclosure, teaching or suggestion for actual position to be used in conjunction with commanded position to determine a degree of actuation.

Dietrich et al., as discussed in the Background section of the present invention, discloses an electromechanical brake which includes a device for comparing a setpoint value of a frictional force with the actual value of the frictional force, which device, in the event of a deviation of the actual value from the setpoint value, drives the electric actuator to correspondingly increase or reduce the generated actuation force, and thus approximates the actual value to the setpoint value of the frictional force. However, controlling the electric actuator based upon

feedback indicative of the frictional force is disadvantageous for a number of reasons as set forth in the Background section of the present application. There is absolutely no disclosure, teaching or suggestion in Dietrich et al. of a current position signal, a position indicative command, or actuation based at least in part upon a comparison of the two.

Shirai et al. discloses a brake control system which is very similar to Dietrich in pertinent regards in that it is based upon a comparison of actual braking force with desired braking force (See particularly Column 54, lines 9-20). As such, the system disclosed in Shirai et al. suffers from disadvantages similar to those suffered by Dietrich et al. Also as is similar to Dietrich et al., there is absolutely no disclosure, teaching or suggestion in Shirai et al. of a current position signal, a position indicative command, or actuation based at least in part upon a comparison of the two.

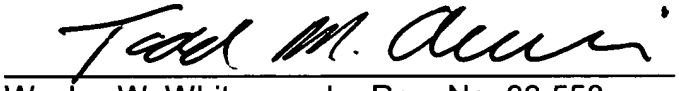
Boehm et al. discloses a system for adjusting for clearance between brake friction linings and a brake disc. This is achieved by provision of a sensor which senses the angle of rotation of the rotor of an electric motor, and a contact-detection means which is able to determine whether a first friction surface (i.e., the friction lining) bears against the second friction surface (i.e., the disc) and thereupon generates a contact signal. A variation of the angular velocity of the

rotor upon application of the first friction surface on the second friction surface is evaluated to determine the rotor angle where the first friction surface touches the second friction surface in a neutral position. Thus, while Boehm et al. discloses a position sensor which arguably produces a current position signal, there is absolutely no disclosure, teaching or suggestion of a commanded position and/or a comparison of the current position signal with a commanded position to determine a degree of actuation.

Hartsock discloses a self energizing brake, application of which may be controlled by determining a degree of brake member (i.e., brake pedal) depression by the vehicle operator, and corresponding this degree of brake member depression, via a look-up table, with a desired amount of brake actuation, and actuating the brake accordingly. Thus, while it may be possible to consider the brake member (i.e., the brake pedal) as being the "moveable brake component" required by the claims, such that the measured degree of depression could be considered the "current position signal", there is absolutely no disclosure, teaching or suggestion of a commanded position and/or a comparison of the current position signal with a commanded position to determine a degree of actuation. Rather, Hartsock appears to employ a deceleration force as measured by an accelerometer in conjunction with various other parameters in order to control application of the brake actuator.

For the foregoing reasons, Applicant respectfully submits that all pending claims, namely Claims 1-45, are patentable over the references of record, and earnestly solicits allowance of the same.

Respectfully submitted,



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Amendments to the Drawings:

No amendments are made to the Drawings herein.